

ABSTRACT OF THE DISCLOSURE

A flexible automated apparatus for isolating and purifying viruses, proteins and peptides of interest from a plant material is disclosed, the apparatus being applicable for large scale purification and isolation of such substances from plant material. The flexible 5 automated apparatus provides an efficient apparatus for isolating viruses, proteins and peptides of interest with little waste material. The automated apparatus for isolating viruses, proteins and peptides of interest includes a grinding apparatus for homogenizing a plant to produce a green juice, a means for adjusting the pH of and heating the green juice, a means for separating the target species, either virus or protein/peptide, from other 10 components of the green juice by one or more cycles of centrifugation, resuspension, and ultrafiltration, and finally purifying virus particles by such procedure as PEG-precipitation or purifying proteins and peptides by such procedures as chromatography and/or salt precipitation.